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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/821,775 | 04/09/2004 | Dejan Jovovic | 071308.0537 | 1452 |

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EXAMINER

COMPTON, ERIC B

ART UNIT PAPER NUMBER

3726

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

10/821,775

[illegible]

JOVOVIC ET AL.

Examiner

Eric B. Compton

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| Art Unit |
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-9 in the reply filed on November 19, 2005, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 10-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 57-149085 Oki in view of DE 19901530 to BIOTRONIK.

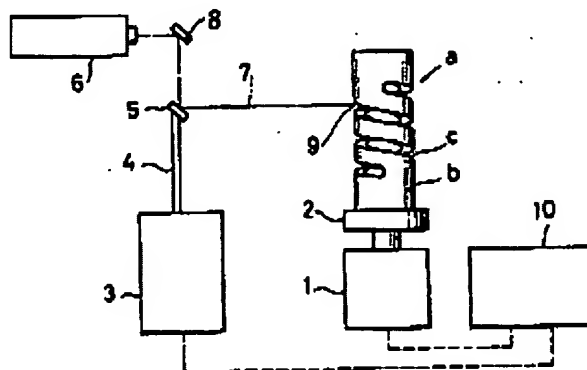
Oki discloses a method for producing a tubular spring in the form of a hollow body, comprising the step of providing a thin-walled seamless drawn steel tube (tubular blank), with a plurality of regularly disposed oblong cutouts, by means of beam/cutting, e.g., laser beam cutting. "To form a spring of high accuracy at a low cost by irradiating

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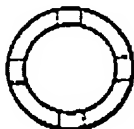
laser light to the circumferential wall of a tubular blank material consisting of a spring material and displacing the blank material and the laser light focused part relatively thereby removing the circumferential wall part corresponding to a groove." JPO

Abstract. See also U.S. Pat. 4,826,143, Col. 3, lines 3-6 (disclosing forming spring by laser beam). The spring of Oki can be used for any particular purpose.

第 1 圖



第 2 圖



第 3 圖



Oki discloses the invention cited above. However, the reference does not disclose that a filler is inserted in the hollow body during the beam/jet cutting. It is noted the Applicant's disclosure of this feature is brief in the Specification and only notes "by using a suitable filler inside the hollow cylinder during beam/jet cutting, a defined

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shaping of the beam/jet outlet edge is achieved and damage to the opposite side is prevented." [0017]. Presumably this is a mandrel of core member.

BIOTRONIK discloses a method for cutting holes in thin-wall tubular stock by laser cutting to form a surgical stent, which incorporates a ceramic support to absorb heat and minimizes distortion. See Derwent Abstract. As shown in Figures 1 and 2, the tubular stock (6) is placed on the core (5) for laser cutting.

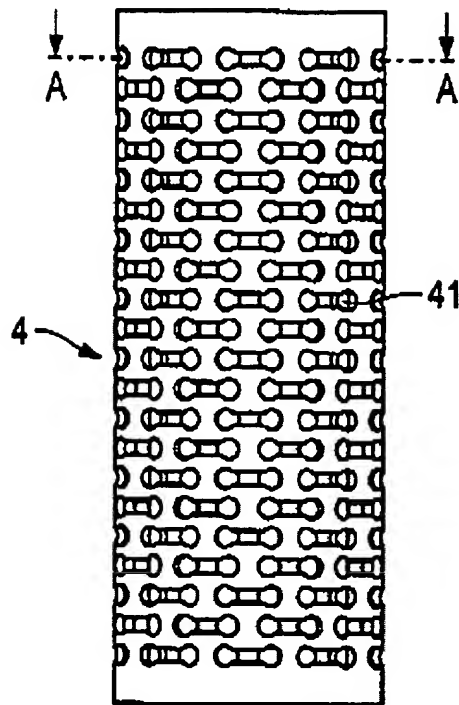
Regarding claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have inserted a filler into the hollow body of Oki during beam/jet cutting, in light of the teachings of BIOTRONIK, in order "absorb heat and minimize distortion" due to laser cutting. Derwent Abstract, title.

Regarding claims 2, 4-5, and 8, Oki discloses these features.

5. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki/BIOTRONIK in view of WO 00/08353 to Frank et al.

Oki/BIOTRONIK disclose the invention cited above. However, the references do not disclose particulars claimed.

Frank discloses a method for producing a tubular spring in the form of a hollow body for preloading a piezoelectric actuator element of an actuator unit of a fuel injector, comprising the step of providing a tube (see page 4, line 11, "Hohlkorper" means "hollow body" in German), with a plurality of regularly disposed oblong cutouts, see Figure 2A, below.

FIG 2A

The spacing of the cutouts is believed to be identical to Applicants' invention. See Frank, Page 5 (diameters 0.8 to 1.6 mm; spacing 1.5 – 3.5 mm). Likewise, the cutouts have a dumbbell shape.

Regarding claims 6-7 and 9, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the recessed of Oki/BIOTRONIK having the claimed shape and design, in light of the teachings of Frank, in order to use it in a piezoelectric actuator. See *also* U.S. Pat. 6,446,606, Col. 3, lines 47-48 (discussing cutting slit in piezoelectric actuator by laser beam).

Response to Arguments

6. Applicant's arguments with respect to claim 3, has been considered but are moot in view of the new ground(s) of rejection.

BIOTRONIK discloses a method for cutting holes in thin-wall tubular stock by laser cutting to form a surgical stent, which incorporates a ceramic support to absorb heat and minimizes distortion. See Derwent Abstract. As shown in Figures 1 and 2, the tubular stock (6) is place on the core (5) for laser cutting. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Oki to provide a support core, in light of the teachings of BIOTRONIK, in order to "absorb heat and minimize distortion" due to laser cutting. Derwent Abstract, title.

Both Oki and BIOTRONIK are directed to laser cutting thin-walled tubular stock. Thus, the references are believed to be analogous with respect to laser cutting such structures. In the event, that the reference are considered non-analogous, BIOTRONIK is directed to the same particular problem that Applicant faced, i.e., preventing distortion due to laser cutting, and one having ordinary skill in the art would have been motivation to rely on its teachings for the same purpose. See *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004). The court found motivation to combine the references to arrive at the claimed invention in the "nature of the problem to be solved" because each reference was directed "to precisely the same problem of underpinning slumping foundations." *Id.* at 1276, 69 USPQ2d at 1690. The court also *rejected* the notion that "an express written motivation to combine must appear in prior art references.." *Id.* at 1276, 69 USPQ2d at 1690.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Applicant's amendment placing claim 3 in independent form changed the scope of the claims. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Eric B. Compton
Primary Examiner
Art Unit 3726

ebc